

**ABSTRACT OF THE DISCLOSURE**

L-arginine or L-lysine is produced by culturing a coryneform bacterium having an L-arginine- or L-lysine-producing ability and modified so that glutamine synthetase activity is enhanced, e.g., a coryneform bacterium which is modified so that adenylation of glutamine synthetase is eliminated. L-arginine or L-lysine are produced by culturing the bacterium in a medium and allowing L-arginine or L-lysine to accumulate in the medium, and collecting the L-arginine or L-lysine from the medium.